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AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A method for quantitating a substrate in a sample solution, which contains a dissolved interfering substance and said substrate, by the use of an electrode system and a reagent system, comprising the steps of:

(a) supplying a sample solution which contains a dissolved interfering substance and a substrate to an electrode system comprising a working electrode and a counter electrode ~~under the existence of~~; mixing said sample solution and a reagent system comprising oxidoreductase and an electron mediator;

(b) applying an AC potential to said working electrode to cause a redox reaction of said electron mediator;

(c) measuring an electric signal produced on the basis of said redox reaction, by means of said electrode system; and

(d) quantitating said substrate on the basis of said electric signal.

2. (Original) The method for quantitating a substrate in accordance with Claim 1, characterized in that in said step (a), said working electrode and said counter electrode are disposed on the same plane.

3. (Original) The method for quantitating a substrate in accordance with Claim 1, characterized in that in said step (a), said working electrode and said counter electrode are disposed in positions opposed to each other across a space.

4. (Original) The method for quantitating a substrate in accordance with Claim 1, further comprising a step (e) of applying a DC potential to said working electrode, and a step (f) of measuring an electric signal produced in said step (e).

5. (Currently amended) The method for quantitating a substrate in accordance with Claim 1, characterized in that in said step (b), a central potential of said AC potential is within the range of -0.4 to +0.4 V relative to a redox potential of said electron mediator, and said central potential (Ecen) ~~is a potential more positive than a potential that is 0.05 V negative relative to~~ and the most negative potential in a potential region where the reaction of said interfering substance at said working electrode is diffusion-controlled (Emin) satisfy the following equation: Ecen > Emin – 0.05(V).

6. (Currently amended) The method for quantitating a substrate in accordance with Claim 1, characterized in that in said step (b), a central potential of said AC potential is within the range of -0.1 to +0.1 V relative to a redox potential of said electron mediator, and said central potential (Ecen) ~~is a potential more positive than a potential that is +0.05 V relative to~~ and the most negative potential in a potential region where the reaction of said interfering substance at said working electrode is diffusion-controlled (Emin) satisfy the following equation: Ecen > Emin – 0.05(V).

7. (Original) The method for quantitating a substrate in accordance with Claim 1, characterized in that said electric signal is impedance.

8. (Original) The method for quantitating a substrate in accordance with Claim 1, characterized in that said electrode system further comprises a reference electrode.

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9. (Original) The method for quantitating a substrate in accordance with Claim 1, characterized in that said working electrode is a rotating disc electrode or a micro-electrode.

10. (Original) The method for quantitating a substrate in accordance with Claim 1, characterized in that said oxidoreductase is glucose oxidase or pyrroloquinoline quinone-dependent glucose dehydrogenase, and said electron mediator is ferrocene carboxylic acid.

11. (Currently Amended) The method for quantitating a substrate in accordance with Claim 1, characterized in that said oxidoreductase is ~~pyloroquinoline~~ pyrroloquinoline quinone-dependent glucose dehydrogenase, and said electron mediator is ruthenium hexacyanate.